CLAIMS

1. A substrate comprising a first electrode, and a second electrode being formed on an insulation film so as to cover at least a part of said first electrode and electrically connected with said first electrode through a contact hole formed on said insulation film,

wherein said first electrode includes a laminated structure of a metal film and a protective film,

an etching rate of said metal film is almost equal to an etching rate of said protective film with respect to a first etching for forming said metal film and said protective film, and

an etching rate of said protective film is almost zero with respect to a second etching for forming said contact hole.

2. The substrate according to Claim 1,

wherein said protective film is an amorphous conductive oxide.

3. The substrate according to Claim 2,

wherein said amorphous conductive oxide is an oxide containing indium oxide and zinc oxide.

4. The substrate according to Claim 1,

wherein said metal film contains molybdenum.

5. The substrate according to Claim 1,

wherein said protective film is formed at a side of said contact hole with respect to said metal film.

6. The substrate according to Claim 1,

wherein said metal film is formed at a side of said contact hole with respect to said protective film.

7. The substrate according to Claim 1, further comprising a thin film transistor including said first electrode functioning as a drain electrode, a source electrode and a gate electrode,

wherein said second electrode functions as a pixel electrode controlled by said thin film transistor.

8. The substrate according to Claim 7, further comprising

a gate signal line being branched from said gate electrode of said thin film transistor, and

a gate insulation film covering at least parts of said gate electrode,

wherein said drain electrode of said thin film transistor is formed on said gate insulation film, and said protective film protects said gate insulation film under said drain electrode from said second etching.

9. A liquid crystal display device comprising,

the substrate according to Claim 1,

a counter substrate opposed to said substrate, and

a liquid crystal inserted between said substrate and said counter substrate.

10. A manufacturing method of a substrate comprising,

a process for forming a first electrode,

a process for forming an insulation film covering at least a part of said first electrode,

a process for forming a contact hole in said insulation film by removing a part of said insulation film, and

a process for forming a second electrode on said insulation film where said first electrode and said second electrode being electrically connected through said contact hole,

wherein

said process for forming the first electrode comprises

a process for laminating a metal film and a protective film, and

a process for patterning both of said laminated metal film and protective film by a first etching where an etching rate of said metal film is almost equal to an etching rate of said protective film, and

said process for forming the contact hole comprises a process for forming said contact hole in said insulation film by a second etching where an etching rate of said protective film is almost zero.

11. The manufacturing method of the substrate according to Claim 10,

wherein said process for patterning comprises a process for patterning said metal film and said protective film by wet-etching using a mixed solution of weak acids.

12. The manufacturing method of the substrate according to Claim 10 where said first electrode functions as a drain electrode of a thin film transistor, and said second electrode functions as a pixel electrode controlled by said thin film transistor, the method further comprising,

a process for forming a gate signal line,

a process for forming a gate electrode of said thin film transistor where said gate electrode is branched from said gate signal line,

a process for forming a gate insulation film covering at least a part of said gate signal line,

a process for forming a source signal line,

a process for forming a source electrode of said thin film transistor where said source electrode is branched from said source signal line, and

a process for removing a part of said gate insulation film on said gate signal line,

wherein said second etching is a dry-etching, and a part of said gate insulation film is removed while forming said contact hole by said dry-etching.

13. The manufacturing method of the substrate according to Claim 10, wherein said protective film is an amorphous conductive oxide.

14. The substrate according to Claim 13, wherein said amorphous conductive oxide is an oxide containing indium oxide and zinc oxide.

15. The substrate according to Claim 10, wherein said metal film contains molybdenum.